Pan'd Pan'd 20 JAN 2005

REPLACED BY

ART 34 AMOT

WHAT IS CLAIMED IS:

5

10

15

20

25

30

35

1. A navigation apparatus, comprising: position detecting means for detecting a current position of an automotive vehicle; destination setting means for setting a destination of said automotive vehicle;

travel route setting means for setting a travel route to said destination set by said destination setting means on the basis of said current position detected by said position detecting means;

operation mode setting means for setting whether or not to utilize an electronic toll collection system on a toll road of said travel route set by said travel route setting means; and

communication means for performing communication with an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system, said communication means being operative to transmit a signal to said in-vehicle apparatus to change an operation mode of said in-vehicle apparatus to said electronic toll collection system.

2. A navigation apparatus, comprising: position detecting means for detecting a current position of an automotive vehicle; destination setting means for setting a destination of said automotive vehicle;

travel route setting means for setting a travel route to said destination set by said destination setting means on the basis of said current position detected by said position detecting means;

operation mode setting means for setting whether or not an electronic toll collection system is utilized on a toll road of said travel route set by said travel route setting means; and

guiding means for guiding said automotive vehicle through said travel route set by said travel route setting means, when the judgment is made that there are electric toll collection system supporting and non-supported lanes on said travel route set by said travel route setting means, said guiding means being operative to guide said automotive vehicle into any one of an electric toll collection system supporting and non-supported lanes on the basis of the setting of said operation mode setting means.

3. A navigation apparatus as set forth in claim 2, which further comprises: communication means for performing communication with an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system; and



a warning means for issuing a warning, and in which

5

10

15

20

25

30

35

said communication means is operative to obtain from said in-vehicle apparatus mode information about whether or not said in-vehicle apparatus is in an active mode to allow said electronic toll collection system to be utilized; and

said warning means is operative to issue a warning on the basis of the setting of said operation mode setting means and said mode information obtained by said communication means.

4. A navigation apparatus as set forth in claim 2, which further comprises:

communication means for performing communication with an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system; and

a warning means for issuing a warning, and in which

said communication means is operative to obtain from said in-vehicle apparatus mode information about whether or not said in-vehicle apparatus is in an active mode to allow said electronic toll collection system to be utilized; and

said warning means is operative to issue said warning on the basis of the setting of said operation mode setting means and said mode information obtained by said communication means when the guiding means is operated to guide said automotive vehicle into any one of said lanes.

5. A navigation apparatus as set forth in claim 2, which further comprises:

communication means for performing communication with an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system; and in which

said communication means is operative to obtain from said in-vehicle apparatus mode information about whether or not said in-vehicle apparatus is in an active mode to allow said electronic toll collection system to be utilized; and

said the guiding means is operative to guide said automotive vehicle into any one of said lanes on the basis of the setting of said operation mode setting means and said mode information obtained by said communication means.

6. A navigation apparatus as set forth in claim 2, which further comprises:
toll information storing means for storing toll information on a toll depending on whether or not said electric toll collection system is utilized on said toll road, and

toll calculating means for calculating a toll to be collected on said toll road of said travel route set by said travel route setting unit on the basis of said toll information stored in



said toll information storing unit and said setting of said operation mode setting unit.

- 7. A navigation apparatus as set forth in claim 1, in which
- said operation mode setting means includes toll road extracting means for extracting a toll road from the travel route set by the travel route setting unit, and toll road setting means for setting in each toll road extracted by said toll road extracting means whether or not an electronic toll collection system is utilized.
- 8. A navigation apparatus as set forth in claim 2, in which
- said operation mode setting means includes toll road extracting means for extracting a toll road from the travel route set by the travel route setting unit, and toll road setting means for setting in each toll road extracted by said toll road extracting means whether or not an electronic toll collection system is utilized.
- 15 9. A navigation apparatus, comprising:

5

25

35

- position detecting means for detecting a current position of an automotive vehicle; operation mode setting means for setting whether or not an electronic toll collection system is utilized on a toll road of said travel route set by said travel route setting means; and
- communication means for performing communication with an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system, said communication means being operative to transmit a signal to said in-vehicle apparatus to change an operation mode of said in-vehicle apparatus to said electronic toll collection system.
 - 10. A navigation apparatus, comprising:
 - position detecting means for detecting a current position of an automotive vehicle; communication means for performing communication with an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system; and
- guiding means for guiding said automotive vehicle into any one of lanes, and in which
 - communication means for performing communication with an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system, said communication means being operative to transmit a signal to said in-vehicle apparatus to change an operation mode of said in-vehicle apparatus to said electronic toll collection system.



11. An in-vehicle apparatus, comprising:

communication means for performing communication with a navigation apparatus; operation mode switching means for switching an operation mode in which an electronic toll collection system is utilized on the basis of a signal received from said navigation apparatus by said communication means.

12. A navigation system, comprising:

5

10

15

25

30

a navigation apparatus as set forth in claim 1; and

an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system to perform communication with said communication means of said navigation apparatus.

13. A navigation system, comprising:

a navigation apparatus as set forth in claim 3; and

an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system to perform communication with said communication means of said navigation apparatus.

20 14. A navigation system, comprising:

a navigation apparatus as set forth in claim 4; and

an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system to perform communication with said communication means of said navigation apparatus.

15. A navigation system, comprising:

a navigation apparatus as set forth in claim 5; and

an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system to perform communication with said communication means of said navigation apparatus.

16. A navigation system, comprising:

a navigation apparatus as set forth in claim 9; and

an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system to perform communication with said communication means of said navigation apparatus.



17. A navigation system, comprising:

a navigation apparatus as set forth in claim 10; and

an in-vehicle apparatus provided in said automotive vehicle as part of said electronic toll collection system, and adapted to perform communication with said communication means of said navigation apparatus.